

REMARKS

The foregoing amendment amends Claim 1 to clarify aspects of the claimed invention and cancels Claims 14-32. Claims 1-13 are currently pending in this application. For the reasons set forth below, Applicants believe that the rejections should be withdrawn and that Claims 1-13 are in condition for allowance.

REJECTION OF CLAIMS 1-13 UNDER 35 U.S.C. §102(e)

The Examiner rejected Claims 1-13 under 35 U.S.C. 102(e), as being anticipated by U.S. Patent No. 7,263,295 to Shinagawa et al. (“Shinagawa”). For at least the following reasons, the Applicants respectfully traverse this rejection and request reconsideration and withdrawal thereof.

Claim 1

The foregoing amendment to Claim 1 clarifies that the transceiver includes first, second and third structures, wherein the first, second and third structures “are composed of an insulator, and are equivalent to a parallel circuit of a resistor and a capacitor.” Support for the amendment to Claim 1 is described throughout the specification. (*See e.g.*, pg. 70, ll. 14 – pg. 71, ll. 3; Figs. 26 and 27).

In general, Shinagawa discloses electro-field communication with a transceiver. Figure 8 of Shinagawa discloses insulating films 106, 108 which are similar to the “first structure” of Claim 1. However, Shinagawa does not disclose or suggest a transceiver including the first, second and third structures as recited by Claim 1. Claim 1 requires “a first structure that is interposed between said transmitting and receiving electrode and said electric field transmission medium,” along with “a second structure that is interposed between said receiver main body and said electric field transmission medium” and “a third structure that is interposed between said receiver main body and said battery.”

According to one embodiment, as shown in Figure 27, a first structure 107 is interposed between the transmitting and receiving electrode 105 and the electric field transmission medium 100 (i.e., human body as shown in Fig. 26), a second structure 7a is interposed between the transceiver main body 30 and the electric field transmission medium

100, and a third structure 7b is interposed between the transceiver main body 30 and the battery 6.

Figure 11 of Shinagawa discloses an insulation film 106' interposed between the transmitting and receiving electrode 105' and an electric field transmission medium 100 (i.e., living body). Shinagawa does not disclose a transceiver including any additional structures composed of an insulator. The Examiner alleged that the ground electrode 31 disclosed in Shinagawa (see e.g., Fig. 17) corresponds to the third structure of Claim 1. As recited in Claim 1, the third structure is interposed between the transceiver main body and the battery. In contrast, Shinagawa merely discloses a ground electrode 31 connected to a battery of a transceiver 3.

Figures 8-11 of Shinagawa and the corresponding sections of the specification as cited by the Examiner do not disclose or suggest a transceiver that includes a first structure between the electrode and the transmission medium, along with a second structure between the transceiver main body and transmission medium, and a third structure between the transceiver main body and the battery, as required by Claim 1. A comparison of Figure 27 of the present application and Figures 8-11 of Shinagawa, illustrates the distinct differences in the structure of the transceiver.

The benefits of the claimed structure of Claim 1 include restricting transmission of noises between the transceiver main body and an insulating case and between the transceiver main body and the battery by the second and third structures. Thus, the reliability of communication can be improved. (See e.g., p. 72, ll. 13-18). Further, by the first, second, and third structures being "equivalent to a parallel circuit of a resistor and a capacitor," as required by Claim 1, impedance can be increased among the electric field transmission medium, the transceiver main body and the battery, such that the mutual coupling capacitance among them can be decreased. Accordingly, it can avoid inducing an unnecessary alternate current electric field among the electric field transmission medium, the transceiver main body and the battery so that the reliability of communication can be improved. (See e.g., p. 70, ll. 14 – pg. 71, ll. 3).

Shinagawa does not disclose or suggest each and every element of Claim 1. Accordingly, Claim 1 is patentable over Shinagawa.

Claims 2-4

Claims 2-4 depend from Claim 1. Accordingly, for at least the same reasons discussed above, Claims 2-4 are patentable over Shinagawa.

Claim 5

Claim 5 requires a transceiver that includes “an insulating case that incorporates said transceiver main body, wherein said transmitting electrode is provided on the whole surface of a portion of an external wall surface of said insulating case, said electric field transmission medium closely approaching the portion, and is covered with an insulating film so as not to be in direct contact with said electric transmission medium.” According to one embodiment illustrated in Figure 27, an insulating case 33 incorporates the transceiver main body 30, such that the transmitting electrode 105 is provided on the whole surface of a portion of an external wall of the insulating case 33, and is covered with an insulating film 107 so as not to be in direct contact with the electric field transmission medium 100.

Figure 11 of Shinagawa cited by the Examiner does not disclose “an insulating case that incorporates said transceiver main body,” as recited by Claim 5. Additionally, none of the figures or corresponding sections of Shinagawa cited by the Examiner disclose a transceiver that includes an insulating case, wherein a transmitting electrode is provided on the whole surface of a portion of an external wall of the insulating case, as required by Claim 5. Shinagawa also does not disclose a transceiver that includes a transmitting electrode provided on the whole surface of a portion of an external wall of an insulating case, that is covered with an insulating film, as required by Claim 5.

Shinagawa does not disclose or suggest a transceiver that includes, an insulating wall incorporating a transceiver main body, and a transmitting electrode that is provided on the whole surface of a portion of an external wall of the insulating case, and is covered by an insulating film, as required by Claim 5. A comparison of Figure 27 of the present application and Figure 11 of Shinagawa, illustrates the distinct differences in the structure of the transceiver.

One benefit of the claimed structure of Claim 5 is that when the electric field transmission medium comes in contact with the transmitting electrode, the impedance between the electric field transmission medium and the transmitting electrode is expressed by an equivalent circuit composed of a parallel resistor and capacitor. In this situation, in order to make the induced electric field large and thereby improve the reliability of communication, it is necessary to make the capacitance component large so as to make the impedance small since the resistance component is large. By making the transmitting electrode large such that the transmitting electrode may cover the portion which the electric field transmission medium comes in contact with, of the wall surface of the insulating case, it is possible to make the capacitance component large. Additionally, a sealing effect against noises may be expected when the constituents of the transceiver may body are surrounded by the transmitting electrode having a large area. (See e.g., pg. 68, ll. 14 – pg. 70, ll. 10).

Shinagawa does not disclose or suggest each and every element of Claim 5. Accordingly, Claim 5 is patentable over Shinagawa.

Claims 6-11

Claims 6-11 depend from Claim 5. Accordingly, for at least the same reasons discussed above, Claims 6-11 are patentable over Shinagawa.

Moreover, with respect to Claims 7, 8 and 9, Shinagawa does not disclose a transceiver that includes an insulating member between a battery and transceiver main body, that is composed of “a foam member containing air,” “a plurality of wooden pillars” or “a cushion member having predetermined gas confined therein” as required by Claims 7, 8 and 9, respectively.

Figures 8-11 of Shinagawa as cited by the Examiner merely disclose an insulation film 106, 108, 106' and the corresponding sections of Shinagawa do not describe the composition of the insulation film. Additionally, none of the figures or corresponding sections of Shinagawa cited by the Examiner disclose an insulating member between a battery and transceiver main body. For example, according to one embodiment, Figure 31 of the present invention illustrates an insulating member 99b between a battery 6 and

transceiver main body 30, wherein the insulating member 99b is a plurality of wooden pillars.

Shinagawa does not disclose or suggest an insulating member between a battery and transceiver main body, wherein the insulating member is composed of “a foam member containing air,” as required by Claim 7, “a plurality of wooden pillars,” as required by Claim 8, or “a cushion member having predetermined gas confined therein,” as required by Claim 9. A comparison of Figures 27 and 31 of the present application and Figures 2-11 of Shinagawa, illustrate the distinct differences. Shinagawa does not disclose or suggest each and every element of Claims 7, 8 and 9.

Claim 12

Similar to Claim 5, Claim 12 requires a transceiver that includes “an insulating case that incorporates said transceiver main body, wherein said transmitting electrode is provided on the whole surface of a portion of an external wall surface of said insulating case, said electric field transmission medium closely approaching the portion, and is covered with a first insulating film so as not to be in direct contact with said electric transmission medium.” (emphasis added). Accordingly, for at least the same reason discussed above with respect to Claim 5, Claim 12 is patentable over Shinagawa.

Furthermore, Claim 12 requires that “said receiving electrode is provided on an external wall surface of said first insulating film, and is covered with a second insulating film so as not to be in direct contact with said electric field transmission medium.” According to one embodiment illustrated in Figure 34, a receiving electrode 105b is provided on an external wall surface of the first insulating film 107a, and is covered with a second insulating film 107b so as not to be in direct contact with the electric field transmission medium 100.

Figure 11 of Shinagawa cited by the Examiner does not disclose “a receiving electrode provided on an external wall surface of a first insulating film,” as recited by Claim 12. Additionally, none of the figures or corresponding sections of Shinagawa cited by the Examiner disclose a receiving electrode provided on an external wall surface of a first insulating film that is covered with a second insulating film, as required by Claim 12.

Shinagawa does not disclose or suggest a transceiver that includes, a receiving electrode provided on an external wall surface of a first insulating film, that is covered by a second insulating film, as required by Claim 12. A comparison of Figure 34 of the present application and Figure 11 of Shinagawa, illustrates the distinct differences in the structure of the transceiver.

Shinagawa does not disclose or suggest each and every element of Claim 12. Accordingly, Claim 12 is patentable over Shinagawa.

Claim 13

Similar to Claim 5, Claim 13 requires a transceiver that includes “an insulating case that incorporates said transceiver main body, wherein said receiving electrode is provided on the whole surface of a portion of an external wall surface of said insulating case, said electric field transmission medium closely approaching the portion, and is covered with a first insulating film so as not to be in direct contact with said electric transmission medium.” (emphasis added). Accordingly, for at least the same reason discussed above with respect to Claim 5, Claim 13 is patentable over Shinagawa.

Furthermore, Claim 13 requires a transceiver that also includes “said transmitting electrode is provided on an external wall surface of said first insulating film, and is covered with a second insulating film so as not to be in direct contact with said electric field transmission medium.” According to one embodiment, as illustrated in Figure 35, a transmitting electrode 105a is provided on an external wall surface of the first insulating film 107a, and is covered with a second insulating film 107b so as not to be in direct contact with the electric field transmission medium 100.

Figure 11 of Shinagawa as cited by the Examiner does not disclose “a transmitting electrode provided on an external wall surface of a first insulating film,” as recited by Claim 13. Additionally, none of the figures or corresponding sections of Shinagawa cited by the Examiner disclose a transmitting electrode provided on an external wall surface of a first insulating film that is covered with a second insulating film, as required by Claim 13.

Shinagawa does not disclose or suggest a transceiver that includes, a transmitting electrode provided on an external wall surface of a first insulating film, and is covered by a

second insulating film, as required by Claim 13. A comparison of Figure 35 of the present application and Figure 11 of Shinagawa, illustrates the distinct differences in the structure of the transceiver.

Shinagawa does not disclose or suggest each and every element of Claim 13. Accordingly, Claim 13 is patentable over Shinagawa.

Information Disclosure Statement (IDS)

In the Office Action, the Examiner lined through a number of foreign patent documents listed on several PTO/SB/08A Forms previously submitted by the Applicants. During a telephone interview with the Examiner, it was noted that copies of the foreign patent documents along with English abstracts had been previously submitted, and the Examiner agreed that he would acknowledge the documents. For the Examiner's convenience, an attached Form PTO/SB/08A provides a consolidated list of all of the foreign patent documents. Applicants respectfully request acknowledgement of the IDS.

CONCLUSION

The foregoing is submitted as a complete response to the Office Action identified above. This application should now be in condition for allowance, and Applicants solicit a notice to that effect. If there are any issues that can be addressed via telephone, the Examiner is asked to contact the undersigned at 404.685.6799. The Commissioner is authorized to charge any additional fees that may be due or credit any overpayment to Deposit Account No. 11-0855.

Respectfully submitted,

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